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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,532	11/06/2001	Tsao Hao-Yu	B-4371 619283-9	4673

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LADAS & PARRY
5670 WILSHIRE BOULEVARD, SUITE 2100
LOS ANGELES, CA 90036-5679

EXAMINER	
BECKER, SHAWN M	
ART UNIT	**PAPER NUMBER**
2173	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,532	HAO-YU, TSAO	
	Examiner	Art Unit	
	Shawn M. Becker	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 7, 9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 6,668,082 to Davison et al. (hereinafter Davison).

Referring to claim 1, Davison teaches a virtual reality method (col. 6, line 4), comprising the steps of:

providing a plurality of images and connecting the images in series as an image sequence (i.e. Fig. 5);

providing a pointer (i.e. mouse) pointed to a target-image in the image sequence (i.e. L2; col. 8, lines 27-28), wherein the target-image is one of the images in the image sequence;

receiving a direction signal (i.e. moving the mouse);

determining the direction signal;

altering the pointer to point to an adjacent image next to the target-image in the image sequence when the direction signal is a first direction signal (i.e. right); and

altering the pointer to point to an adjacent image previous

to the target-image in the image sequence when the direction

signal is a second direction signal (i.e. left). See col. 8, line 15 – col. 9, line 64.

Referring to claim 9, Davison discloses a virtual reality method (col. 6, line 4), comprising the steps of:

providing a plurality of images and arranging the images into a matrix (Fig. 25, S250-S252 and single row matrix in Fig. 5);

providing a pointer pointed to a target-image in the matrix (i.e. L2; col. 8, lines 27-28), wherein the target-image is one of the images in the matrix;

receiving a direction signal;

determining the direction signal;

altering the pointer (i.e. mouse) to point to an adjacent image next to the target-image in the matrix when the direction signal is a first direction signal (i.e. right);

altering the pointer to point to an adjacent image previous to the target-image in the matrix when the direction signal is a second direction signal (i.e. left);

altering the pointer to point to an adjacent image above the target-image in the matrix when the direction signal is a third direction signal (i.e. up); and

altering the pointer to point to an adjacent image below the target-image in the matrix when the direction signal is a fourth direction signal (i.e. down). See col. 24, lines 45-54 and col. 8, line 15 – col. 9, line 64.

Referring to claims 4 and 14, Davison displays the image pointed to by the pointer. See Fig. 5.

Referring to claim 7, Davison teaches that the images are the photos of an object at different positions on a circle having a fixed radius, and there is a predetermined angle difference

between one image and its adjacent image in the image sequence. See Figs. 29a-29b and col. 32, lines 11-64).

Claim Rejections - 35 USC § 103

3. Claim 8 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davison.

Referring to claim 19, Davison teaches that the images are photos that may be taken and stored in any number of ways (col. 7, lines 5-20) and that there may be a predetermined angle difference between images (i.e. Figs. 29a-29b and col. 32, lines 11-64), which suggests taking the at different positions from a virtual spherical surface such that photos from different horizontal angles are place in one row of the matrix (i.e. one series) and the images from different overlooking angles are placed in one column of the matrix. It would have been obvious to one of ordinary skill in the art to photograph and store the photos in a matrix of such a fashion to develop a 3-D model that may be rotated as is known in the art and supported in Davison.

Referring to claims 8 and 20, Davison describes a predetermined angle difference (i.e. θ1-90 degrees), but does not explicitly state that this angle is 24 degrees. θ1 may be any angle, making a 24 degree horizontal angle possible in the method of Davison. It would have been obvious to use an angle difference of 24 degrees, 30 degrees, 35 degrees or any other number of degrees to achieve the desired number of images in the sequence of images to make the most realistic model as supported in Davison (col. 30, line 46 – col. 31, line 24).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2-3, 5-6, 10-13, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davison and U.S. Patent No. 6,014,142 to LaHood.

Referring to claims 2-3 and 10-13, Davison determining which image the pointer points to (i.e. highlighting the image), which includes determining if the pointer points to the last image in the sequence. Davison alters the pointer to point to the first image (i.e. by moving the mouse to the first image) when the direction signal (direction of mouse movement) is a first direction, but Davison does not explicitly teach the first direction is the same first direction signal and moving the pointer from the last image to the first image. However, LaHood teaches a method for navigating through a 3-D virtual world, such as the world created by Davison, that provides for a clockwise, counterclockwise, or other rotational direction signal, which suggests that when a last image in a series of images along an axis (or column/row of a matrix) is pointed to (in focus) and the same first direction signal is selected again, then the first image in the series of images along the axis (or column/row of a matrix) is pointed to (in focus), or *vice versa*, such as when a first image is pointed to along an axis (or column of a matrix) and the second direction signal is received then the last image would be pointed to. See LaHood at col. 3, lines 34-64. It would have been obvious to one of ordinary skill in the art to modify to include the navigational interface of LaHood in the 3-D world of Davison to provide intuitive, efficient, and easy-to-use navigation as taught by LaHood (col. 1, lines 46-50).

Referring to claims 5-6 and 15-18, in the method of Davison and LaHood, the first direction signal is a right signal (i.e. LaHood at Fig. 4, 49d) and the second direction is a left

signal (i.e. LaHood at Fig. 4, 49c). The third signal is an up signal (i.e. LaHood at Fig. 4, 49a) and the fourth signal is a down signal (i.e. LaHood at Fig. 4, 49b).

Conclusion

6. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach methods of creating virtual reality images and navigating a virtual world.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn M. Becker whose telephone number is (703) 305-7756. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca can be reached on (703) 308-3116. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

smb

JOHN CABECA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100